CLAIMS:

1. A method comprising:

delivering electrical stimulation to tissue of a patient at a stimulation site via an electrode mounted on a lead and located proximate to the stimulation site; and

eluting genetic material from a polymeric matrix to the stimulation site to cause transgene expression by the tissue at the stimulation site, wherein the lead includes a chamber body that defines a chamber and the chamber contains the matrix.

2. The method of claim 1, wherein the matrix comprises extracellular collagen.

3. The method of claim 2, further comprising:

blending extracellular collagen and gelatin; and

freeze-drying the blended extracellular collagen and gelatin to from the matrix.

4. The method of claim 1, further comprising cross-linking the matrix, wherein eluting genetic material comprises eluting the genetic material at a rate that is a function of the cross-linking of the matrix.

5. The method of claim 1, further comprising:

soaking the matrix in the genetic material; and

placing the matrix into the chamber.

6. The method of claim 5, further comprising:

freezing the chamber body that contains the matrix and the genetic material; and

providing the frozen chamber body to a clinician,

wherein the lead comprises a lead body, and the clinician thaws the chamber body containing matrix and genetic material and assembles the lead body, chamber body and electrode prior to implantation of the lead within the patient.

7. The method of claim 5, wherein soaking the matrix in the genetic material and placing the matrix into the chamber comprises soaking the matrix in the genetic material and placing the matrix into the chamber by a clinician, and

wherein the lead comprises a lead body, and the clinician assembles the lead body, chamber body and electrode prior to implantation of the lead within the patient.

8. The method of claim 1, wherein the chamber body is located at a distal end of the lead, the method further comprising immersing the distal end of the lead into the genetic material by a clinician to introduce the genetic material to the matrix.

9. The method of claim 1, wherein the electrode is porous, and eluting genetic material comprises eluting the genetic material via the electrode.

10. The method of claim 1, wherein the genetic material comprises at least one of a viral vector, a liposomal vector, and plasmid deoxyribonucleic acid (DNA).

11. The method of claim 1, wherein the genetic material causes expression of a protein by the tissue at the stimulation site that increases the conductivity of the tissue at the stimulation site.

12. The method of claim 11, wherein the genetic material causes expression of at least one of a connexin, a gap-junction, and an ion channel by the tissue at the stimulation site.

13. The method of claim 12, wherein the genetic material causes expression of connexin-43 by the tissue at the stimulation site.

14. The method of claim 1, wherein the genetic material causes expression of at least one of a metalloproteinase, an anti-inflammatory agent, and an immunosuppressant agent.

15. The method of claim 14, wherein the genetic material causes expression of IκB.

16. The method of claim 1, wherein the genetic material comprises a first genetic material, the method further comprising delivering at least one of a second genetic material and a drug to the stimulation site.

17. The method of claim 16, wherein the drug comprises dexamethasone.

18. The method of claim 1, wherein the electrode is implantable within the patient.

19. The method of claim 18, wherein the tissue at the stimulation site comprises cardiac tissue.

20. The method of claim 19, wherein the transgene expression in response to delivery of the genetic material creates a preferential conduction pathway between the stimulation site and an intrinsic conduction system of a heart of the patient.

21. A medical lead comprising:

a lead body;

an electrode mounted on a lead body to deliver electrical stimulation to the stimulation site; and

a chamber body that defines a chamber, the chamber containing a polymeric matrix that absorbs the genetic material and elutes the genetic material to the tissue at the stimulation site.

22. The medical lead of claim 21, wherein the matrix comprises extracellular collagen.

23. The medical lead of claim 21, wherein the matrix is cross-linked, and elutes the absorbed genetic material at a rate that is a function of the cross-linking.

24. The medical lead of claim 21, wherein the chamber body is separable from the lead for loading with the matrix and the genetic material.

25. The medical lead of claim 21, wherein the electrode is porous, and the matrix elutes the genetic material to the stimulation site via the electrode.

26. The medical lead of claim 21, wherein the genetic material comprises at least one of a viral vector, a liposomal vector, and plasmid deoxyribonucleic acid (DNA).

27. The medical lead of claim 21, wherein the genetic material causes expression of a protein by the tissue at the stimulation site that increases the conductivity of the tissue at the stimulation site.

28. The medical lead of claim 27, wherein the genetic material causes expression of at least one of a connexin, a gap-junction, and an ion channel by the tissue at the stimulation site.

29. The medical lead of claim 28, wherein the genetic material causes expression of connexin-43 by the tissue at the stimulation site.

30. The medical lead of claim 21, wherein the genetic material causes expression of at least one of a metalloproteinase, an anti-inflammatory agent, and an immunosuppressant agent.

31. The medical lead of claim 30, wherein the genetic material causes expression of IκB.

32. The medical lead of claim 21, wherein the electrode is implantable within the patient.

33. The medical lead of claim 32, wherein the tissue at the stimulation site comprises cardiac tissue.

34. The medical lead of claim 33, wherein the transgene expression in response to delivery of the genetic material creates a preferential conduction pathway between the stimulation site and an intrinsic conduction system of a heart of the patient.

35. A method comprising:

introducing genetic material to a polymeric matrix; and

placing the matrix into a chamber formed by a chamber body of a medical lead for elution of the genetic material to tissue of a patient at a stimulation site.

36. The method of claim 35, further comprising:

blending extracellular collagen and gelatin; and

freeze-drying the blended extracellular collagen and gelatin to from the matrix.

37. The method of claim 35, further comprising:

identifying the genetic material and an elution rate; and

cross-linking the matrix based on the genetic material and the elution rate.

38. The method of claim 35, further comprising lyophilizing the matrix containing the genetic material.

39. The method of claim 35, further comprising:

freezing the chamber body containing the matrix and the genetic material; and

providing the frozen chamber body to a clinician,

wherein the clinician thaws the chamber body and assembles the lead to include the chamber body for implantation of the lead into the patient.